5700 Oxford Drive New Berlin, WI 53146 February 1, 2000

RE: DEER BAITING IS CRAP HUNTING

Dear Mr. Jim Baumgat,

I am writing this letter to you and to several other members of the Deer 2000 committee. I believe it is important enough to take the time to express what I see is going on in the woods that is changing the way hunting is now done in Wisconsin. Perhaps you can do something about it, or we can write the modern hunting experience off as one other thing we can leave as our heritage that is considerably diminished experience from the way it was passed on to us. I am extremely dismayed to personally observe the illegal activities and the elimination of what has always been considered fair chase that is becoming pervasive associated with baiting for deer. I own property in central Wisconsin and also own property and hunt in Bayfield and Douglas counties. The hunt my 4 sons and my comrades enjoy is centered on shooting a few deer that we find on our own, often after tracking, without the use of motor vehicles, and often drag more than one mile when we are lucky. Now as a result of baiting, the natural patterns of deer movement are substantially disrupted, the use of quads to deliver bait all over the woods, damage trees, and actually driving deer is routinely observed. The erection of illegal permanent structures and the cutting of shooting lanes on public property is a direct result of the extensive baiting activity. Deer hunting has become baiting, which deprives future hunters of a unique experience as well as contributing to violation of a significant number of our current regulations which is apparently now acceptable.

I am sending this to provide my observations on this issue as you progress with your decision making. The introduction of widespread baiting in Wisconsin has had significant detrimental effects on hunting and respect for the game laws, not to mention the understood concepts of fair chase. Certainly, more deer are killed by hunters due to baiting, and if that is all that matters, then we should all bait like crazy.

A. L. Reimer

If you have any questions on this, feel free to contact me at 262-679-9226.

MEMO:

TO:

Mary Gibson-Glass

FROM:

Pat in Senator Baumgart's Office

RE:

Drafting of bill relating to using bait to hunt deer.

(Last Session's AB 870)

DATE:

1/11/99

Jim would like to have this bill drafted. It should read the same as 1997 Assembly Bill 870, with the below addition.

"No baiting from the Monday before the deer/gun season through the Friday after the deer/gun season ends. No wildlife feeding more than 100 feet away from a residence without a free wildlife permit for non-hunting feeders".



February 25, 1999

TO:

ALL LEGISLATORS

FROM:

SENATOR JIM BAUMGART

RE:

COSPONSORING LRB 1675/1 - relating to attracting wild animals

with bait.

This legislation will prohibit the baiting of deer from the Monday prior to the deer/gun season through the Friday after. It is being introduced at the request of a number of constituent hunters who have a concern over the issue of hunter ethics and animal disease.

If you would like to sign on to LRB 1675/1 please call my office at 6-2056 by March 12, 1999.

Analysis by the Legislative Reference Bureau

Current rules promulgated by the department of natural resources (DNR) restrict the types and locations of bait that may be used for the hunting of certain wild animals. This bill prohibits the use of bait for the purpose of hunting deer during the period beginning on the Monday immediately before the first day of regular gun deer season and ending on the Friday immediately following the last day of the regular gun deer season.

This bill also prohibits a person from using bait to attract wild animals more than 100 yards from a residence for a purpose other than hunting unless the person has a permit issued by DNR. The bill requires DNR to establish requirements and procedures for issuing these permits and prohibits DNR from charging a fee for these permits.

For further information see the **state** fiscal estimate, which will be printed as an appendix to this bill.

Material Resources Committee Memberes,

In writting to inform you that the I'm in favor of sitting a ban on deer baiting. Die Obeen Wenting deer for 31 years and Die seen the baiting To deed cause conflicts in the woods Private and especially Country State, and Tederal lands. Die hunted Farm country and the Big woods of northern Wise and have had Stroblems with deer baiting and deer feeding during the hunting Slason. Swill lest folyon Seme of the problems Die seen over the past 10 yrs

1. Claiming of large areas of hunting land because of a near by bait pile on public lando.

2. Nocturnal movement of deer because they aren't bothered while feeding att night. And Sunters Staying in their stands well ofter hunting hours.

3. Cobin shootings of cleer because of built pile or feed piles att might. (DNR Says they have a problem)

4. Conflicts between hunters of where they can hunt on public lands because of a pile.

5. Holding deer on a private sièce y land by dumping tons of feed for the der so they don't have to go anywhile else for food.

There are problems also brought up by the Clardens and Biologists that are a concern.

as. I said before the wardens soy they are arresting people for shooting deer from their Cabins because of feed or bait piles. also builting after holishin their stands. Biologists sky the baiting and feeding of deer courses deseases because of the Wight Concentration of the deer in one area. If
you have it heard they have a problem in
Michigan With the spread of TB because
of the cleer baiting and feeding, and has
general to farms with beef and diary cows. This alone is a Seary thought to loose more farms because of a TB outbreak! At would be Unice to end deer bailing like Minonesota and many other states, have already dene do, Wisconsin Calild get back to having a great hunting tradition without conflict! Please think about it when you have to make a decision on this issue and Duwayne Johnsud has brought to your aftention they trying to pass a hill to ban baiting.

Thank (Jan Stuer L. De Bauche 3611 Anston Rd. Liem Bay Wi. 54313 920-4314-3790 April 9, 1999

Senator James Baumgart State Capitol, Room 306 South P.O. Box 7882 Madison, WI 53707

Dear Senator Baumgart:

Recently, there has been discussion that legislation will be introduced which will make it illegal to recreationally feed wildlife or use bait for hunting purposes. Attached are **582 signatures** from citizens in northeastern Wisconsin who are **OPPOSED TO LEGISLATION** WHICH WOULD MAKE IT ILLEGAL TO RECREATIONALLY FEED WILDLIFE OR USE BAIT WHILE HUNTING.

People in support of this legislation often use the following statements to justify this proposed legislation. However, if you stop to think about their statements, you realize the legislation to discontinue recreationally feeding wildlife or hunting over bait would not correct the situations they describe.

Statement: People are shooting deer at night while they eat corn placed by outside lights near their cabin.

Response: Currently, there is a potential fine up to \$2000 for illegally shooting a deer at night while using a light. There also is a fine of \$284 for hunting more than one hour after legal hunting hours. Shooting deer this way can result in fines totaling approximately \$2284 (\$2000 + \$284). If legislation is passed which would make it illegal to feed wildlife or bait deer, I assume the fine would be in the \$200 range. I doubt that a person who is willing to risk \$2284 to poach a deer at night would discontinue this action if they faced an additional \$200 fine because they used corn. Therefore, there probably would not be a substantial decline in this type of poaching if feeding or the use of deer bait were made illegal.

Statement: Feeding deer can result in spreading of the disease tuberculosis.

Response: An infected deer would spread this disease to other deer anyway. This disease is spread to other deer from the saliva of the infected deer. In the northern areas, where deer yard up during the winter, an infected deer would spread the disease to other deer. In the southern agricultural areas where deer do not yard up, they congregate in fields to feed. Therefore, the infected deer would still come in contact with other deer and spread the disease.

Statement: Some hunters on public land seem to think that when hunting with bait, they have rights to that spot and no one else can hunt there.

Response: This is not an issue of baiting. The issue here is poor hunter ethics on behalf of both hunters. The person placing the bait has no right to claim any spot on public lands, nor should

the other hunter intentionally sit near another hunter. This problem also occurs in areas of high hunter concentrations and is not just limited to the use of deer bait. Common sense and common courtesy for other hunters would go a long way in solving this problem.

People who are opposed to recreationally feeding wildlife or the use of bait fail to mention the positive impacts of these actions.

Economically, the impact of feeding wildlife is significant to numerous feed mills, apple orchards, and farmers who sell their products to people who feed wildlife or bait deer. This generates jobs and a substantial boost in crop sales. Recently, I contacted a couple of feed mills and was informed that there sales rose approximately 25% because of people feeding wildlife and baiting deer.

Hunter safety is improved by people hunting over bait. Hunting over bait allows people to sit in a tree stand while hunting and have the deer come to them rather than perform deer drives. This allows a hunter to shoot in a downward direction into the ground at a standing deer, rather than horizontally in the potential direction of other hunters as occurs when deer drives are used. Driving deer is already a hazardous hunting method accounting for 35% of all hunting accidents in 1998 (statistic obtained from the 1998 Deer Gun Season Report, dated December 8, 1998, written by Tom Harelson, Chief Warden, Wisconsin Department of Natural Resources to George Meyer, Secretary, Wisconsin Department of Natural Resources). The unsafe practice of driving deer as a method of hunting would probably increase if hunting over bait were made illegal.

The unfortunate incidents of deer being wounded and not recovered would also increase if hunting over bait became illegal. This is because people hunting over bait are shooting short distances at a standing deer rather than longer distances at a running deer.

Considering the above information, you can see that the negative statements of shooting from cabins, spreading of the disease tuberculosis, and poor hunter etiquette would still be present if feeding wildlife or baiting are made illegal. However, legislation which made the feeding of wildlife or the use of bait illegal would have a significant negative impact on feed mills, apple orchards, and farmers. Also, it could lead to more hunting accidents if hunters go back to the method of driving deer rather than hunting from a deer stand.

Therefore, the 582 attached petitioners request that you vote AGAINST ANY LEGISLATION WHICH WOULD MAKE IT ILLEGAL TO RECREATIONALLY FEED WILDLIFE OR USE BAIT WHILE HUNTING.

If you have any questions concerning this request, feel free to contact me at (920) 732-3746 or at the address shown below.

Sincerely,

Dave Schmidt 6728 County T

Whitelaw, WI 54247

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| Josh Mussner | 619 Sandy Lane Mishicot WI, 5 4225 |
| Josh Campion | P.O. Box 282 Mobiled WI 54228 |
| Ryan Campion | 2330 E. Zander mishicat WI 5422 |
| JihRehbein | 15110 Rainbow Rd. Mishicot, Wi. 54228 |
| Jeremigh Eis | 8310 Stone Road Manitowoc, WI 54220 |
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| Name | Address |
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| Robert & Subile | 2 115 William Francis Ct Green Bay WI 54311 |
| Thomas P. Pray | 151 South Rockway Misheot Wi 54228 |
| Hay Musser | 619 Sendy Four Mishiest 54228 |
| Roger Meisney | 1313 MY V Y WE KINGED 3777 |
| Ren Red | BOX 113, 10409 MARTBEL WIS. 54227 |
| James Holselfael | 1015 Main ST - Whitelaw wi 54247 |
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| Poten of Tagen | |
| Tete D Belmylf | 39 14 Manroe St Two Rivers 54241 |
| Aff Brachard | 3313 Sayer Ave TWORIVERS 54241 |
| Hen Breychoud | 3313 Sucreful TWONIVERS 5454 |
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| Jan Bertrand | E2704 (74 F. Kewrennel SYZ16 |
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| Joan Brockun | 718 Lakeside Ct. Two Rivers, WE 54241 |
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| Frank Downak | 979519 11 PANITHIN (1)1 54771 |
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| Karen Schroeder | 5065 Polifie Rd Manitoux WI59220 |

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| John Martens | 1831 CTYRD J Little Suamico WI 54141 |
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| Harold H. Hulshiman | 2981 Hormanew Way, G. B. W1 54303 |
| Greg Storber | 2451 VANI LAKE CT, G.B., WIS. 54311 |
| At 1 | 402 ARTHUR CT, KIMBERLY WI 54136 |
| Jan G Dolla | 1001 DIVOT PIACE 6.B W1. 59313 |
| Collect He mis | 3322 NAMICAL ARE GB WI 54311 |
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| | 252 W. CUPAR ST. PULASKI WLS#162 |
| DENVIS KEYZER | 1241 CAROLE LN GREENBAY, WI 54313 |
| Daniel Heri | 976 Coppens Rd. Green Bay W. 54303 |
| To le Probects | 1110 N. Bucharan Green Bay WI 54303 |
| Karen Kouse | 2525 Robinson, Corgen Ray WI 54311 |
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| Brian & Bent | 1425 Biemeret St. Green Bay 54304 |
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| how white | 5683 Lassita atom 54101 |
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| mitald Cohan | 436 STOMEHOUGO RD GROEN BY, WI SY302 |
| - Karafun Certage | 436 Stonehedge Rd Green Bay WI 54302 |
| arthur Axlohmi | At 6728 C.T.H. T. Whitewww 54247 |
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| James F. Thompson | 743 GRANT ST, DE PERE, WI 54115 |
| ROBERT WAGNER | 2096 FOX FIELD CT DEFERE WI 54115 |
| DENNIS DETTMAN | 605 COLUMBIA AVE. GREEN BAY WI. 54303 |
| this Summithering | 813 GEHC L. HILBERT WI 54129 |
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| gamer A. Vortel | 2227 Fox Height Sang, ant 205 |
| DAVE WERER | 7088 MEMORIA DR. A-7109 |
| CLIFF ZITTLOW | 445 N. CECTL BONDUEL WISC. 54107 |
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Henderson, Patrick

From:

C. J. Allen [cjallen@execpc.com]

Sent: To: Thursday, May 06, 1999 4:56 PM Sen.Baumgart

Subject:

Bill 103

Senator Baumgart:

Attached is my written opposition to Senate Bill 103 which you proposed.

I would like to express my views on some of the rationale which has been given for introducing this bill.

1. Some hunters have been exceeding the existing quantity limits for bait.

I do not believe it is appropriate to penalize the vast majority of hunters who bait within legal limits because of a minority of individuals who violate the current baiting guidelines. I think the real issue that needs to be dealt with is the hunters who are violating the current law. Senate Bill 104 is a step in the right direction for dealing with the minority of hunters whose actions have led to the introduction of this bill in the first place. Setting the fine even higher would lead violators to think twice about their actions.

If over baiting is seen as a real issue, this bill should apply to all baiting, which would include the deer bow season and the bow and gun black bear season.

2. Baiting and feeding could spread wildlife diseases:

I am a bit skeptical about this rationale, as the evidence submitted to date is inconclusive regarding this assertion.

However, if the real concern is that baiting could spread wildlife diseases, then I think this bill should be expanded to include the baiting of all hunted wildlife, which must include deer hunted during the bow season as well as the black bear in both the bow and gun seasons.

3. Baiting creates "turf" battles:

One suggested problem is that of hunters protecting their "turf."

By restricting baiting to only private lands, all parties should be satisfied with their options. Private landowners can remain on their property, which is their turf. Those individuals who hunt on public lands will enjoy the same options as all other hunters seeking to hunt in the same area.

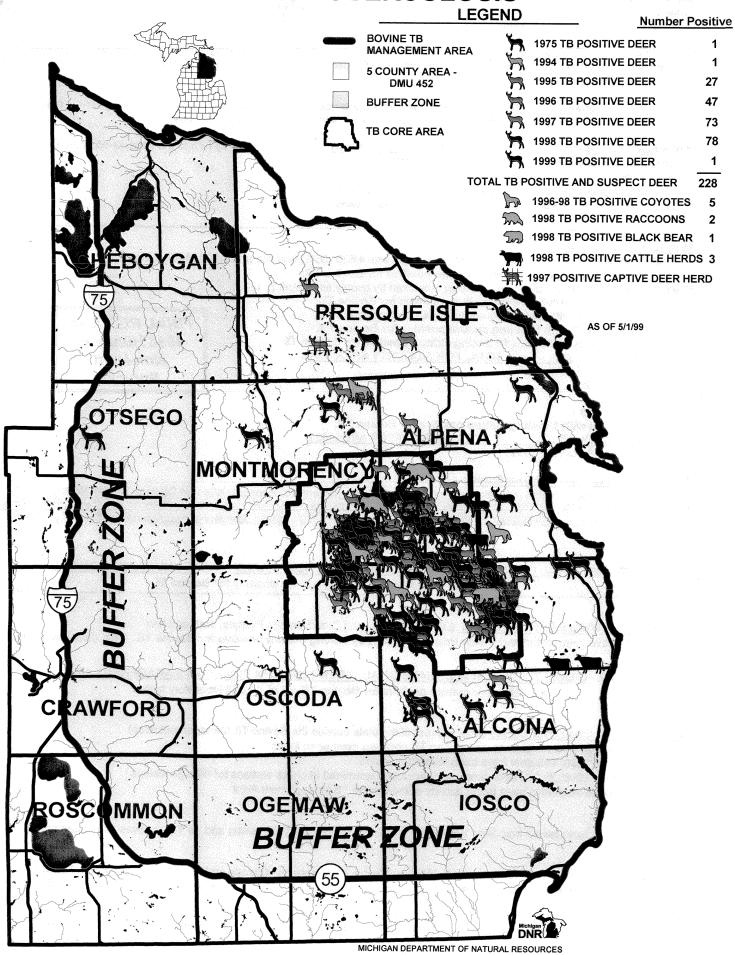
I think that land owners should have the right to bait on their own property. Due to the abundance of hunters in the woods during the deer season, I want to be able to stay on my own property, away from other hunters. Baiting provides a realistic opportunity for hunters to stay on their own property and not infringe on the rights of other hunters to have an undisturbed hunt.

Senator, I respectfully ask you to recommend a change in the language within this proposed bill so that private land owners may legally bait on their own property.

Sincerely,

David J. Allen 2006 S. Thompson Drive Madison, Wisconsin

BOVINE TUBERCULOSIS



Michigan Department of Natural Resources • Wildlife Division Rose Lake Wildlife Disease Laboratory (517)373-9358 BOVINE TB UPDATE May 1, 1999



Bovine tuberculosis (TB) is a disease caused by a bacteria that mainly affects the respiratory system. All mammals are capable of being infected with the disease although it is highly unlikely that a person would contract the disease from field dressing or eating the meat of an infected animal.

 Initial Occurrences: In 1975 a 9 year-old female white-tailed deer from Alcona county, and in 1994 a 4 year-old male deer from Alpena county were submitted with lesions consistent with and tested positive for bovine TB.

White-tailed Deer Surveys from the Bovine TB Management Area (an area bordered by I-75 to the west, M-55 to the south, Lake Huron to the east, and the Straits of Mackinac to the north)

- 1995 Survey 27 deer were positive out of 814 deer sampled.
- 1996 Survey 47 deer were positive out of 3718 deer sampled.
- 1997 Survey 73 deer were positive out of 3681 deer sampled.

1998 Hunter Harvest White-tailed Deer Survey

- 8,357 deer tested. The sex distribution of the sample was 4,623 (56%) females and 3,702 (44%) males.
- Of the 8,357 deer tested, 76 tested culture positive for Bovine TB.

The total numbers of 1998 Hunter Harvest deer submitted by county as of April 7, 1999:

Alcona 2,124 with 31 testing culture positive for Bovine TB. Alpena 2,012 with 24 testing culture positive for Bovine TB.

Oscoda 1,339 with 5 testing culture positive for Bovine TB.

Montmorency 1,243 with 15 testing culture positive for Bovine TB.

Presque Isle 986 TOTAL FOR 5-COUNTY AREA: 7,704

Cheboygan 102 Crawford 98

losco 95 Ogemaw 85

Otsego 85 with 1 testing culture positive for Bovine TB.

Roscommon 16

TOTAL FOR BUFFER AREA: 481

Unknown Location 172

FINAL RESULTS 1998 Hunt and Non-Hunt Surveys

1998 Non-Hunt White-tailed Deer Survey

639 deer have been tested (510 females and 129 males). There were 473 deer submitted on Disease Control Permits, all of
which tested negative for Bovine TB. There were 166 deer tested for other reasons (highway kill, found dead, enclosure). Two
deer tested positive for Bovine TB (1 from Presque Isle County: a 3 year old doe; and 1 from Alcona County: a 4 year old
doe).

⇒ 1998 TOTAL DEER TESTED IN BOVINE TB MANAGEMENT AREA SURVEYS - HUNT AND NON-HUNT

8,996 deer tested with 78 testing culture positive for Bovine TB.

1999 Non-Hunt White-tailed Deer Survey (Disease Control and Crop Damage Permits, and road kill)

 443 deer have been tested and 1 deer from Montmorency testing culture positive for Bovine TB. This deer was found dead.

⇒ GRAND TOTAL FOR ALL YEARS OF ALL DEER TESTED IN BOVINE TB MANAGEMENT AREA

228 deer culture positive for Bovine TB out of 17,654 laboratory tested.

Statewide White-tailed Deer Survey (from the rest of the state outside the Bovine TB Management Area)

- 1999 (ongoing): 91 have been tested and no TB positives have been found.
- 1996 through 1998: 845 deer have been laboratory tested.
- 1996 through 1998: 29,078 deer carcasses have been examined at check stations for ribcage lesions.
- No TB positive deer have been found outside of the Bovine TB Management Area.

Elk Survey

408 elk have been tested from May 1996 to the present (207 from the 1998 hunts) and no TB positives have been found.

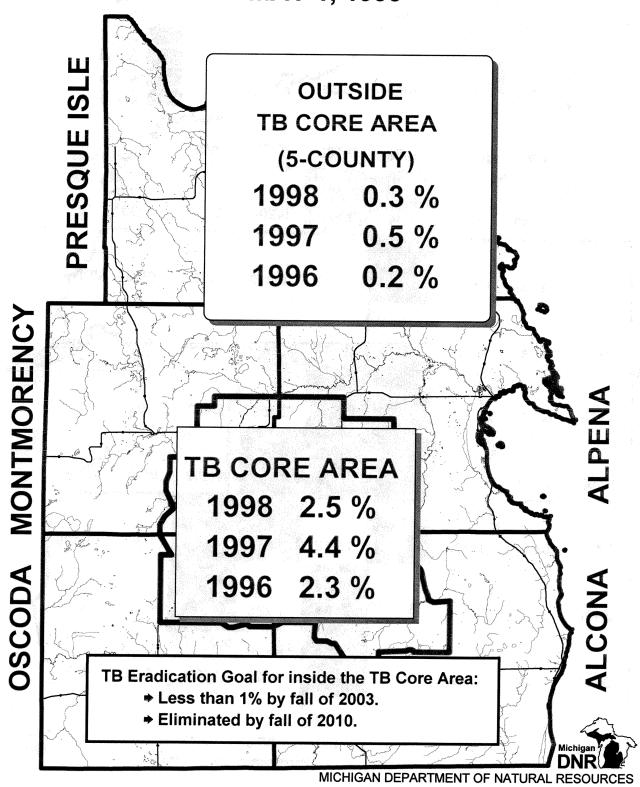
Carnivore Survey

281 carnivore, mainly from the five county (Alcona, Alpena, Montmorency, Oscoda and Presque Isle) area from February 1996
to the present, have been tested. Nine species were represented (4 badgers, 42 black bear, 7 bobcat, 104 coyotes, 57
opossums,

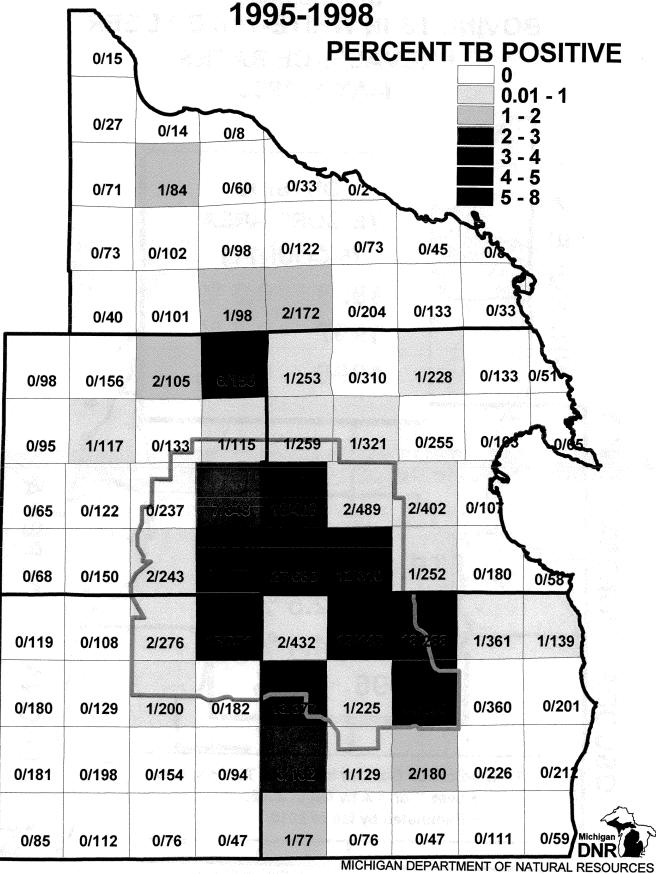
59 raccoons, 6 red fox, 1 gray fox, and 1 feral cat). Five coyotes, 2 raccoons, and 1 black bear tested positive for Bovine TB. The positive black bear was submitted from the 1998 hunter harvest and was from Alcona county, within the TB Core Area (the old DMU 452).

Michigan Department of Natural Resources Wildlife Division

BOVINE TB IN WHITE-TAILED DEER PREVALENCE RATES MAY 1, 1999



TB PREVALENCE BY TOWN & RANGE



CARNIVORES TESTED FOR BOVINE TB IN THE 5-COUNTY AREA

As of May 1, 1999 **LEGEND** Coyote Badger **Opossum Bobcat** Raccoon Feral Cat **Red Fox Black Bear Gray Fox Tested Positive TB Core Area** PRESQUE ISLE ALPENA ALCONA

Michigan Department of Natural Resources • Wildlife Division

Bovine Tuberculosis in Michigan Coyotes, Raccoons, and Black Bear May 1, 1999

In 1995, bovine tuberculosis (bovine TB) was discovered to be endemic in free-ranging white-tailed deer in the northeastern lower peninsula of Michigan. The discovery of endemic tuberculosis in deer coupled with the wide host range of *Mycobacterium bovis*, the causative agent of bovine TB, provided the impetus for a survey of other wild species present in the area. Wildlife species selected for inclusion in the study (which is ongoing) are those carnivorous or omnivorous mammalian species present in the 5-county area where deer were found with bovine TB and whose population density is sufficient to allow collection. Species included in this survey are the opossum, raccoon, coyote, gray fox, red fox, black bear, bobcat, feral cat, and badger. To date, 281 animals have been tested with five coyotes, two raccoons, and one black bear found infected with the bovine TB organism (*Mycobacterium bovis*). The most likely source of infection for these coyotes, raccoons, and the black bear was through the consumption of tuberculous white-tailed deer.

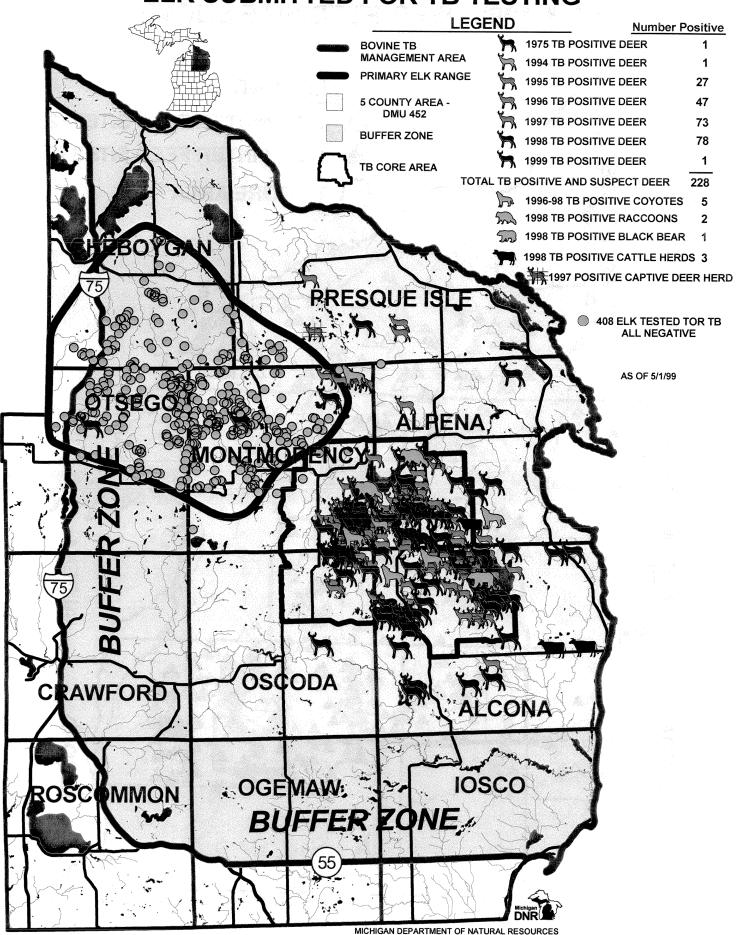
The finding of *M. bovis* in free-ranging coyotes, raccoons, and black bear, although rare, is not unprecedented. *Mycobacterium bovis* was cultured from one of 23 free-ranging coyotes collected near a *M. bovis* infected captive elk herd in Montana in 1994. This was the first report of bovine TB in a coyote. No gross or microscopic lesions were observed in this animal.

The first three bovine TB-positive Michigan coyotes, the first raccoon, and the black bear showed no gross or microscopic lesions in their organs or lymph nodes. The fourth coyote had dozens of 2 to 3mm diameter nodules in the lungs and an enlarged, mottled mesenteric lymph node. The pathologist who performed the necropsy felt that these lesions were not consistent with tuberculosis. His feeling was that the lung lesions were due to a reaction from parasites (roundworm migration through lungs). The fifth coyote had enlarged mesenteric lymph nodes that did not contain microscopic lesions. The second raccoon had microscopic lesions in the cranial lymph nodes. The raccoon had been eviscerated so the abdominal organs and lymph nodes were unavailable for examination.

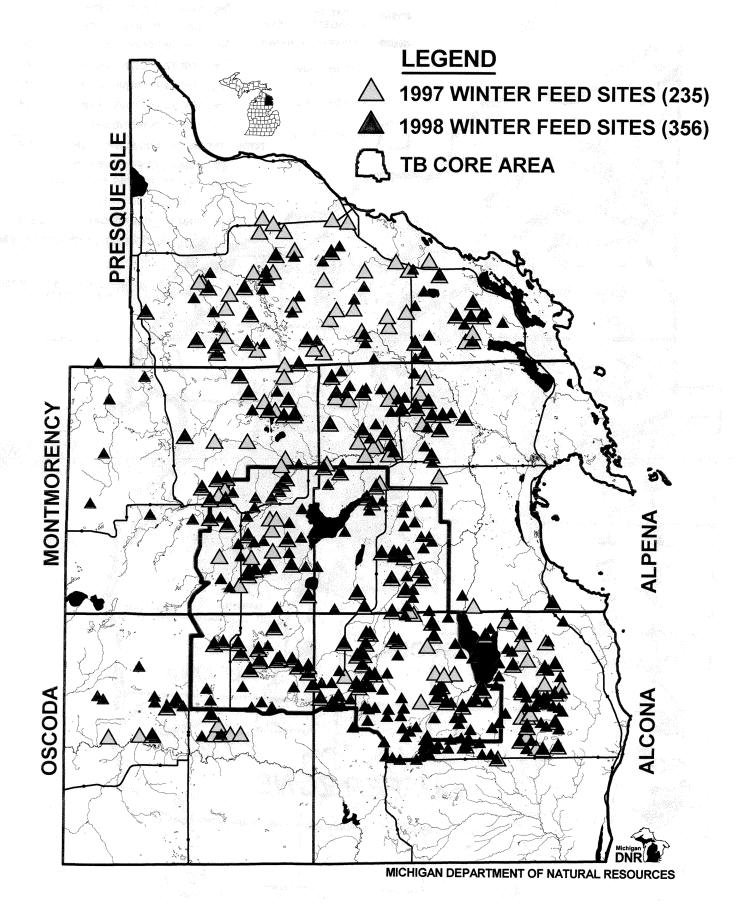
There are several reports in the literature of mycobacterial isolation in carnivores without visible lesions. In cases with visible lesions, tuberculosis is thought to be most often a chronic disease characterized by fibrous encapsulation suggesting that carnivores are relatively resistant to tuberculosis. The lack of gross or microscopic lesions in the Michigan coyotes, the raccoon, and the black bear indicates that these animals were either infected recently (sufficient time had not elapsed to allow the development of lesions), or that the development of discernable lesions was impaired due to the relative resistance of these coyotes, the raccoon, and the black bear to tuberculosis. Without extensive lesion development containing enormous numbers of bacteria and an avenue of excretion of the bacteria from the body, successful disease transmission to other animals from coyotes, raccoons, or black bear is doubtful.

While most mammalian species are susceptible to bovine TB, only a few are thought to be reservoirs of *M. bovis*. The white-tailed deer in Michigan is recognized as a reservoir host of bovine TB. Once the disease is eliminated from the deer, the disease should die out in the coyotes, raccoons, and black bear. As long as bovine TB exists in the wild, free-ranging deer population, there will be some risk to local wildlife species that feed on bovine TB-infected deer carcasses or gut piles and continued surveillance will be necessary.

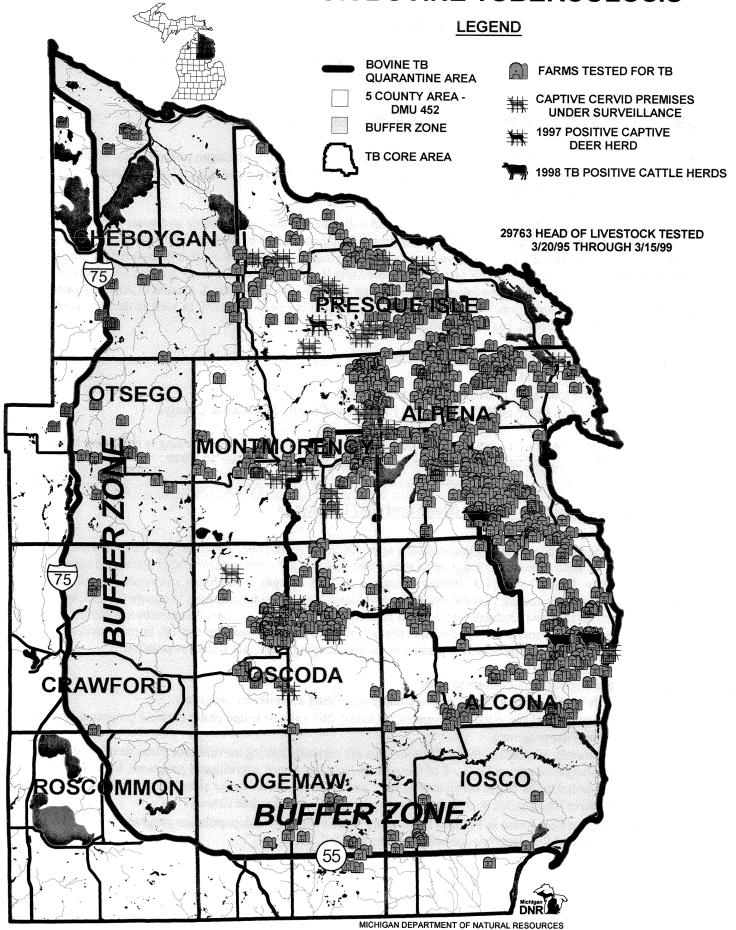
BOVINE TUBERCULOSIS ELK SUBMITTED FOR TB TESTING



BOVINE TUBERCULOSIS 1997 & 1998 DEER FEED SITE SURVEYS



TB SURVEYS 1995-1999 LIVESTOCK TESTED FOR BOVINE TUBERCULOSIS



Michigan Department of Agriculture

Summary of Northeastern Michigan TB Livestock Surveillance

March 15, 1999

Surveillance of Non-Cervid (Cattle and Goats) Livestock

The discovery of TB infected free-ranging white tailed deer in Northeastern Michigan prompted the Michigan Department of Agriculture to begin testing all livestock that reside in the five counties: Alcona, Alpena, Montmorency, Oscoda, and Presque Isle.

MDA began testing in the five county area in 1995, and will continue until all the cattle and goats in the area north of M-55 and east of I-75 are tested. Most of our testing is being conducted by State and Federally employed veterinarians. Testing in the five-county area is nearly completed. It was this testing that discovered the three infected bovine TB positive herds thus far. The first herd was located in Alpena County and has been depopulated and the final report documenting the investigation is being drafted. The second herd, located in Alcona County, is being scheduled for depopulation. The trace-out investigation has begun in this herd, as well as the third herd. The third herd, also in Alcona, has been depopulated.

The following is a result of the testing efforts to date:

- 779 total farms tested.
- Over 29,763 total head of livestock have been tested.
- 6 Positive cows found on three premises. 1 in Alpena County, 5 in Alcona County.

All cattle and goats in the five-county area will be tested by the end of April 1999. Testing is underway in the buffer zone, with the goal of testing all cattle and goats in this area by September 30, 1999.

Surveillance of Captive Cervid (Deer and Elk) Livestock

Michigan's farmed cervidae industry encompasses approximately 16,800 deer 2,000 elk, and 500 other cervidae. MDA maintains a strict monitoring program to assure that deer and elk imported from other states and moved within the state are free of bovine TB. Recent industry supported changes in Michigan's laws are requiring all captive white-tailed deer and elk farms to undergo surveillance for bovine tuberculosis to ensure the quality of Michigan's farmed cervidae products. MDA also investigates any reports of possible tuberculosis occurrence in farm-raised deer and elk, and has developed specific surveillance protocols for deer and elk farms within the region of Michigan where bovine tuberculosis is present in the free-ranging white-tailed deer population.

The following is a result of our efforts to date:

- All herds within the five county area are under individual surveillance programs.
- 13 have completed surveillance programs, including 207 animals tested under cervical programs, and 183 under slaughter programs.
- Approximately 30 herds in the buffer zone area are currently having surveillance plans developed, and this
 will be completed spring 1999. 8 of these herds have completed surveillance programs, including 336
 animals tested under single cervical programs, and 3 animals tested under slaughter programs.
- One positive white-tailed deer and elk farm was found in Presque Isle County.
- The positive herd found in Presque Isle County should complete a depopulation program April 1999. Verification of this depopulation will continue into fall, 1999.

HOW TO FIND INFORMATION ON BOVINE TB AND OTHER WILDLIFE DISEASES ON THE WEB

ROSE LAKE WILDLIFE DISEASE LAB WEB PAGE

http://www.dnr.state.mi.us/wildlife/division/roselake

ROSE LAKE WILDLIFE DISEASE ABORATOR)



East Lansing, MI 48823-9454 (517) 373-9358 rtwork by Gijsbert van Frankenhuyz 8562 E. Stoll Rd.

- About the Lab
- About our Volunteers
 - Contact the Lab



1997 WILDLIFE DISEASE SUMMARY 1996 WILDLIFE DISEASE SUMMARY

<u>Diseases Affecting Michigan Wildlife 1995-97 by</u> <u>Animal Species</u>

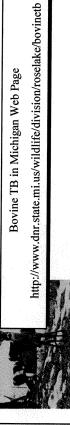
Disease seen at bird feeders during the winter and spring of 1998 MICHIGAN WILDLIFE DISEASE MANUAL

Michigan Wildlife Harvest Surveys (Bear, Bobcat, Fisher, Otter)

NEW 1998 Bear Harvest

Bovine Tuberculosis in Michigan

1998 Bovine TB Brochure (includes photos): **Bovine Tuberculosis in Michigan**



Click here for information on Bovine TB Eradication in Michigan's Wildlife



Click here for information on Bovine TB Eradication in Michigan's Livestock

Includes <u>Latest Surveillance Information and Map</u>, as of January 4, 1999. Quarantine Order No. 1998-02, effective 1/1/1999.

Division

WILDLIFE DIVISION WEB PAGE

For Other Wildlife Information:

http://www.dnr.state.mi.us/wildlife

Wildlife

February 1, 1999 Press Release State Ag Director Announces U.S. Department of Agriculture Will Not Change Michigan's TB Accredited Free Status

January <u>6, 1999 Press, Release</u> Update on State's Bovine TB Status Provided During National Scientific Conference. Second and hird infected cattle herds identified.

The following addresses both wildlife and livestock:

The latest issue of the Bovine TB Bulletin, Vol.1, No.2

The Michigan Departments of Agriculture, Natural Resources and Community Health recently distributed the first Bovine TB Update, a bulletin aimed at keeping all stakeholders advised on the status and current issues surrounding Michigan's bovine TB eradication efforts.



[Division Information][Outdoor Recreation][Hunting Information][Natural Heritage][Wildlife Species]

[Private Lands][Permits][Publications & Reports][Other Interesting][Kids' Stuff] [DNR Home Page] July 28, 1999

Senator Alice Clausing 319 South, State Capitol Madison, WI 53707

Dear Senator Clausing:

Currently, there are two bills relating to the baiting of deer in your committee. SB 103, relating to attracting wild animals with bait, and SB 104, relating to baiting of deer for hunting. I would like to request that each of these bills be given a public hearing at your earliest convenience.

Senate Bill 103, prohibits a person from using bait for the purpose of hunting deer during the period beginning on the Monday immediately before the first day of regular gun deer season and ending on the Friday immediately following the last day of regular gun deer season. The bill also prohibits the use of bait more than 100 yards from a residence for a purpose other than hunting unless the person has a free permit issued by DNR. I have introduced this bill at the request of several conservation minded constituents, who are concerned about hunter ethics and the spread of disease through the deer population.

Senate Bill 104, simply raises the minimum fine that given for excessively baiting deer. Currently law restricts the types and amounts of bait that may be used for the hunting of deer. The maximum fine for this violation is \$1,000 but sets no minimum. This bill would make the minimum fine \$160 and does not change the maximum fine. This change is important to insure that if someone decides to violate the baiting regulations they pay a substantial penalty.

I would appreciate your attention to this matter. If you have any questions about either bill, please feel free to contact me.

Sincerely,

Jim Baumgart State Senator 9th Senate District

JB/ph



State Representative James R. Baumgart

26th Assembly District: City of Sheboygan-Wards 1-3,5,6,9,11-16 City of Sheboygan Falls Village of Kohler Town of Sheboygan Town of Sheboygan Falls Ward 4

TO:

ALL LEGISLATORS

FROM:

REPRESENTATIVE JIM BAUMGART

DATE:

FEBRAURY 19, 1998

RE:

COSPONSORING LRB4473/1

I will be introducing, at the request of a constituent, the following legislation, LRB4473/1, relating to the use of bait to hunt deer.

Analysis by the Legislative Reference Bureau

Current rules promulgated by the department of natural resources restrict the types and locations of bait that can be placed for the hunting of wild animals. This bill prohibits the placement of any bait for the purpose of hunting deer during any season that is open to the hunting of deer with firearms.

If you wish to sign on the bill, please call my office, 266-0656, by Wednesday, February 25, 1998.

AB 870

March 6, 1998

Mr. Donald J. Lohr 2613 S. 16th Street Sheboygan, WI 53081

Dear Don:

Enclosed is a copy of your "no baiting" bill for deer hunting with firearms. I'm sending along a half dozen copies as you may want to share with family and friends.

Well, Don Lohr is more famous now. With only three weeks left in the session, there may not be time for a public hearing; however, if there is one, I would expect you to come down to testify - with friends, if possible.

Sincerely,

Jim Baumgart State Representative 26th Assembly District

JB:ae Enclosures

Dale Kalema

Eskeitz, Anne

From:

KatsmD@mail01.dnr.state.wi.us[SMTP:KatsmD@mail01.dnr.state.wi.us]

Sent:

Monday, March 16, 1998 8:19 PM

To:

c=US;a= ;p=STATE-OF-WISCONS;o=DNR SOUTHEAST;dda:SMTP=rep.baumgart@legis.state.wi.us;

Subject:

FW: News From Terry Riley, WMI

regargding deer feeding/baiting - Michigan. >From: Bahti, Tom M >Sent: Tuesday, March 17, 1998 7:31 AM >To: Katsma, Dale E >Subject: FW: News From Terry Riley, WMI >As per your request.... >From: Mytton, Bill R >Sent: Monday, March 16, 1998 3:10 PM >To: Bahti, Tom M >Subject: FW: News From Terry Riley, WMI >From: Hauge, Tom M >Sent: Monday, March 16, 1998 1:15 PM Mytton, Bill R; Beheler-Amass, Kerry; Hurley, Sarah S; Miller, Steven W >Subject: FW: News From Terry Riley, WMI >From: Terry Z. Riley[SMTP:wmitr@hdc.net] >Sent: Monday, March 16, 1998 8:22 AM >Subject: News From Terry Riley, WMI >Michigan Fights Bovine TB >.c The Associated Press > By JUSTIN HYDE >EAST LANSING, Mich. (AP) - Concerned about the spread of disease to cattle, >two Michigan state commissions approved measures meant to eradicate an >outbreak of bovine tuberculosis among whitetail deer in parts of the Lower >Peninsula. >The state Agriculture Commission approved a ban Thursday on feeding deer in >the area. The Natural Resources Commission prohibited baiting deer in the >five >affected counties and parts of six others. >Under the bait ban, hunters could use bait only from Sept. 1 until the last >day of the open deer-hunting season in the affected area. >Farmers say the steps are needed - and might not be enough to stop the deer >from spreading the disease to cattle. Some hunters consider the limits too >severe. >"There's plenty of bitter medicine to go around," Bob Bender, the state's >TB >coordinator, told a joint meeting of the Natural Resources and Agriculture >commissions Wednesday. "We're not going to solve this problem overnight."

| >Wildlife officials began testing deer for TB after one infected animal was >found in northeastern Lower Michigan in 1994. Testing of deer killed by >hunters in 1997 within a 600-square-mile area of Alpena, Montmorency, >Alcona >and Oscoda counties found 4.4 percent of the kill infected, up from 2.3 >percent in 1996. |
|--|
| >The infection threatens the state's cattle industry, which has been certified >as tuberculosis-free. Preliminary tests show that four cattle herds in the >area might have been infected. If those tests are confirmed, the whole >state >would lose its certification for at least five years, and all cattle >shipped >out of Michigan would have to be tested. |
| >To stop the disease from spreading, and to thin the deer herd, the state >Agriculture Department has proposed banning deer feeding stations on May 1 >in >all of five counties and parts of six others. About 350 stations in the >four >counties and neighboring Presque Isle County now provide deer with some >food. > |
| >"We feel the deer numbers are higher than what the habitat can support," >said Elaine Carlson, a district officer of the Natural Resources >Department. |
| > The bait ban would come with some stiff penalties for violations, up to a >felony charge carrying a \$50,000 fine. |
| >"A voluntary feeding ban would not work," Natural Resources Director K.L. >Cool told commissioners. "In order to be successful, we're going to have >to >have a total ban." |
| >Rebecca Humphries, who runs the Wildlife Division, said the department also >is >considering changes to the hunting season in the area, including an extra >week >for firearms in mid-October and unlimited permits for antlerless deer. |
| >Some hunters argued against the bans, saying looser restrictions on feeding >or >voluntary efforts would do more good. But several spoke in support. |
| >"We believe the deer population must be reduced, and the sooner we start, >the >easier it will be to deal with," said Ron Nelson, a spokesman for the >Michigan Farm Bureau. "We need to start now." |
| >Galen Schalk, a dairy farmer in Montmorency County, said the issue has left >many farmers unsettled. Four TB-infected deer have been found on or near >his >farm in Hillman. |
| > "It is extremely hard to make short-term investment plans for my > business," > he said. "We've even considered doing business in another state." |
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PHOPME DOCHN DON COMA

FRANK KEEFIN

STATEMENT OF REDDECENTA

STATEMENT OF REPRESENTATIVE JIM BAUMGART, AUTHOR

ASSEMBLY NATURAL RESOURCES COMMITTEE - March 17, 1998

ASSEMBLY BILL 870, re: using bait to hunt deer.

Thank you for the quick response to Assembly Bill 870.

The bill is important! Hopefully, it will generate discussion among the hunting public // Wife Corns, w

With me today is Don Lohr, a friend and a Sheboygan County Resident. First, I will point out some important issues and then Mr. Lohr will speak.

- It is important to say that the issue of using bait to hunt deer is a divided question among hunters. Some like it, some don't, and other feel forced to use it to balance or even the playing field.
- Following is a <u>list of states</u>, most in the Midwest, that don't use baiting as a hunting tool for deer. Many states feel that baiting is not ethical or a fair chase. That states that I could gather information on are: READ STATES

The student manual on Hunter's Safety does not even discuss baiting - although kids do ask about it.

- Most instructors and many students are given a book entitled "Beyond Fair Chase", that deals with the subject.
- When first started, baiting was using some apples or a bit of corn. Now it's big business. It's gotten out of hand.

 **CONSIGN MARS DEED DEA HOM BAIL PILL DO BAIL PILL
- Major problems disease (READ ARTICLE)

Willing to amend after word place (line 4) to add "or hunt over" bait..

June 9, 1998

David Sabrowsky Conservation Warden - DNR PO Box 310, 1635 Neva Road Antigo, WI 54409-0310

Dear Dave:

Good to hear from you - this time as a voice from the past. You're right, it's the one and same Jim Baumgart. You never know, given enough time, where U.W. Stevens Point graduates may turn up.

Thank you for your letter. It is those kinds of things that provide background for legislation to change baiting. The bill was introduced and failed, as you know. It did have surprising support among members of the Assembly Committee on Natural Resources. Hopefully, I'll be around to bring up the subject again when the Legislature meets again in January of 1999. I'm finishing my term of office in the Assembly. It will be my last term, as I have announced for State Senator for a seat being vacated by the present Senator. If elected, a baiting bill will be introduced again. I will provide a discussion on the ethics as well as practical problems caused by baiting.

Hopefully, we'll get an opportunity to meet again sometime in the future.

Sincerely,

Jim Baumgart State Representative 26th Assembly District

JB:wrc



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor George E. Meyer, Secretary William H. Smith, Regional Director

Antigo Area Office P.O. Box 310, 1635 Neva Road Antigo, Wisconsin 54409-0310 TELEPHONE 715-627-4317 FAX 715-623-6773

June 1, 1998

IN REPLY REFER TO:

MR JIM BAUMGART STATE REPRESENTATIVE 26TH ASSEMBLY DISTRICT STATE CAPITOL PO BOX 8952 MADISON WI 53708

Dear Mr. Baumgart:

I appreciate your letter of May 5, 1998, but more than that, I'm grateful you are trying to do something about deer hunting over bait. I've been trying to get our Department to address this problem for years but so far have been disappointed.

A few years ago I submitted two rule change proposals, the first to have deer baiting banned state wide and the second to ban deer baiting on State land. Despite 73% of the State's Game Wardens and Game Managers opposing deer baiting, both proposals did not get out of committee. I've also been interviewed by the "Kaukauna Times", "Wausau Herald", and Pat Durkin from "Deer & Deer Hunting" Magazine. I mention this so you realize that I am committed to getting the deer baiting problem resolved and that if there is any help I can provide, please feel free to contact me.

On a more personal note, in 1970 I met a Jim Baumgart at Clam Lake during summer school for Natural Resources Majors. I also took him bow hunting one night by Manawa (Waupaca County). Could that Jim Baumgart be you?

Again, thank you for trying to correct a major problem we have in this State and if I can help in any way, please feel free to contact me.

Sincerely, Northern Region

Conservation Warden

Dave Sabrowsky





Godd 10 hour from your - 11 Volce Mon Me JASTO YOUR RIGHT, is she one And SAM Tim boumpost. you ween knew, given waghtimillher those stain W.M. SITUANS GOINT GRANATS MAY CANTE TURN HIG. this one Thank you for your litter. HAT WHE IT is Most Kinds of Thomas Mit man placede DACKGROUND FOR LIGISLATION HAT TO Change Opiling Aldringh Mebile phic price was INMOSPERS AND HAIL IT SIN hour supplied of support AMoung We Members of the ASSIMBLY NAWAL ABOUTCE tartully I'll he mound 10 bring UP ME Subject AGBIN Whom Mr Ligislassin Mitted Again in Throng. I'M hirishing My 8th YardyTh IBMM) IN MI ASSIMBLY, IT WILL be my LAST TEAM, IN FILE I NAW Avorance For the SIME STOVARELAN Offer Start, It titelded this paining will will be inmoderal Agrin-Mill Movide Adriession on

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Northeast Michigan Surveillance Activities for Bovine Tuberculosis in the Livestock and Free-Ranging Deer Populations AFCELY LEGGE OF THE

Update: September 15, 1998

INTRODUCTION

The eradication of Bovine tuberculosis (TB) in the United States met a significant challenge The following a hunter-killed deer discovered to have TB in 1994, TB was confirmed in free-ranging (wild) deer in the northeast Lower Peninsula of Michigan in 1995. Following this discovery, the United States Department of Agriculture (USDA) conducted an in-depth risk assessment on the situation which has provided a basis for many of the critical steps implemented so far. Since then, numerous actions have been taken to assess the risk, ascertain the extent of the spread of TB, confine the disease to assure no further spread, and develop an eradication strategy. Infected wild deer have been found in five counties (Alpena, Alcona, Montmorency, Oscoda, and Presque Isle). An on-going survey of other wildlife has not found TB in wild elk, badger, red fox, gray fox, opossum, or bobcats thus far. Five coyotes and 2 raccoons have been found infected. Due to the potential for exposure to TB, testing of all cattle and goats over 6 months of age in the five counties was begun. At this time, Bovine TB has been confirmed in 1 beef cow from a herd in Alpena county and the entire herd was depopulated.

Although great progress has been made in the eradication of TB from the United States, the discovery of a wildlife reservoir poses a unique and difficult impediment to this effort. Scientists, biologists, epidemiologists, and veterinarians that have studied this situation have concluded that the most logical theory is that the supplemental feeding of wild deer serves to congregate deer, therefore contributing to the spread of TB. Supplemental feeding has been banned and baiting (the practice of hunting deer over feed) has been limited with the intention of reducing the spread of TB between deer and eventually eliminating this disease from the wildlife, therefore completing the eradication. In addition, the deerhunting season has been extended in this area to help decrease the deer population.

BACKGROUND INFORMATION

Tuberculosis is a serious disease caused by several bacteria of the Mycobacterium (M.) family that mainly affects the respiratory system. Three main types of TB and their causative agents are: human (M. tuberculosis), avian (M. avium), and bovine (M. bovis). Human TB is the most host specific of the three types, rarely being transmitted to non-human species. Avian TB is typically restricted to birds; however, pigs and a few other animals are susceptible. Bovine TB or cattle TB is the most infectious TB, infecting most warm-blooded animals, including humans. It is this type, Bovine TB, which has infected the deer and other wildlife in the five-county area of the northeastern Lower Peninsula of Michigan.

Although Bovine TB was once relatively common in cattle in the U.S., it has historically been a very rare disease in wild deer. Prior to 1994, only 8 wild white-tailed or mule deer had been reported with Bovine TB in North America. In 1994, a hunter in southwestern Alpena county shot a four-year-old male deer that was infected with Bovine TB. The only other time Bovine TB was found in a wild deer in Michigan was in 1975, in a hunter-killed nine-year-old female deer in Alcona county.

Bovine TB is a disease spread primarily by close contact with infected animals (airborne exposure from coughing and sneezing) and exacerbated by crowding and stress. Bovine TB is a slow debilitating type of disease that has a long incubation period. Animals that become infected may live and potentially spread the disease for years. While there have been numerous reports of Bovine TB in domestic livestock and captive cervid herds in the U.S., the disease has never before been determined to be self-sustaining in free-ranging wildlife in North America. The best science indicates that the maintenance of Bovine TB in Michigan white-tailed deer is directly related to supplemental feeding and the increased focal densities this practice creates.

Supplemental winter feeding of deer has become common in northern Michigan. Even non-hunters may engage in supplemental feeding for pleasure of wildlife viewing and the psychological satisfaction received from the perception that wildlife have benefited from this practice. Supplemental feeding consists of placing a variety of foodstuffs including carrots, sugar beets, corn, and hay in large piles and allowing wildlife free access to these products during winter (approximately four or five months). This practice brings together a large number of deer for a prolonged period of time, in contrast to the normal grazing practices of deer where they remain spread out over greater distances. Under the unnatural circumstances of supplemental feeding, inhalation of the Bovine TB bacteria or consumption of feed contaminated with Bovine TB bacteria by coughing and exhalation is much more likely to occur than in a free-ranging (wild) cervid (deer or elk) population.

Deer densities in the northeastern Lower Peninsula of Michigan have been maintained above the natural carrying capacity for many years. Focal concentrations of deer at feeding sites can result in even higher densities, resulting in several hundred deer being observed at some feeding sites. While overall densities are moderately high in Michigan, it is the concentration of deer caused by supplemental feeding which is thought to play a major role in the transmission of Bovine TB between animals.

Human Health Concerns & Food Safety

Consumers continue to have no reason to worry about the safety of their milk and meat supply. Since 1965, all Grade A milk in Michigan has been required to be pasteurized assuring the safety of Michigan's milk supply. All beef sold for public consumption is required to be inspected as part of USDA's Food Safety Inspection Service's meat inspection program.

Because Bovine TB is generally spread by aerosol transmission, it is highly unlikely that a person would contract the disease from field dressing or eating the meat of an infected animal. There is no specific test that can be easily done to check for Bovine TB in meat. Proper cooking and food safety practices should be followed not only when cooking venison, but when cooking any meat or poultry. Thoroughly cooking venison, as well as any other meat, is important to reduce the likelihood of any bacterial disease. All meat, including venison, should be cooked until the meat is no longer pink and the juices run clear. If thoroughly cooked, the likelihood of any disease transmission to individuals consuming this meat is extremely small.

It is important to remember that usually the TB lesions are on the parts of deer that are generally not consumed. These include the inner organs, as opposed to the muscle tissue (meat), making disease transmission to humans from consumption even less likely.

When people field dress deer, it is recommended that it be done in a well-ventilated area, ideally outdoors. Adequate ventilation greatly reduces the possibility of inhaling any bacteria found in lesions inside the deer. If the lungs, ribcage, or internal organs from an animal look abnormal, the meat should not be eaten and the Michigan Department of Natural Resources (MDNR) should be contacted.

People can be skin tested to determine if they are infected with TB. These tests can be done at either the local health department or a private physician's office. A positive skin test, however, does not identify the type or source of the infection. Remember that most people get the infection from other people.

ELIMINATION STRATEGY OF BOVINE TB IN NORTHEASTERN MICHIGAN

The presence of Bovine TB in northeastern Michigan presents a unique and serious problem that poses a risk to humans, domestic livestock, deer, and other wildlife. To address this unique situation, the Michigan Department of Agriculture (MDA), Michigan Department of Natural Resources (MDNR), Michigan Department of Community Health (MDCH), United States Department of Agriculture (USDA), and Michigan State University (MSU) formed a Statewide Bovine TB Committee composed of individuals with diverse expertise and jurisdiction. On this committee were representatives from the agricultural community, hunting groups, wildlife experts, veterinarians, and medical and public health officials. This Committee developed recommendations, to be submitted to the directors of the State agencies, for a management strategy to eliminate the presence of Bovine TB from the infected area of northeastern Michigan. These recommendations were then taken by Dr. R. Ben Peyton, (Department of Fisheries and Wildlife, MSU), to various meetings throughout the state to evaluate public acceptance of the recommendations, then these evaluations were reported to the Directors. The final recommendations include wildlife and livestock management activities, surveillance, public communication efforts and the support and application of scientific research.

On January 29, 1998, Governor John Engler called for a strategy to eradicate Bovine TB in Michigan wild deer in an Executive Directive to the Directors of MDCH, MDA, and MDNR.

Governor Engler identified actions that must be included in the eradication strategy:

- Development of wild deer herd harvest quotas consistent with the eradication of Bovine TB.
- Development and implementation methods for farmers to eliminate contact between wild deer and livestock.
- Continued comprehensive surveillance of livestock and deer to determine the actual prevalence of the disease and accurately evaluate trends.
- Dissemination of information to hunters, farmers, and the public regarding the need to manage wild deer in the five-county area to eradicate Bovine TB.
- Identification of a Bovine Tuberculosis Eradication Coordinator position within MDCH to work cooperatively with all concerned agencies in overseeing the eradication management strategies.

On February 3, 1998, Governor John Engler appointed Bob Bender, a former State Representative, to this Bovine Tuberculosis Eradication Coordinator position. Mr. Bender has and will continue to work cooperatively with the Departments involved and attend public meetings throughout the state.

Wildlife Strategy

A combination of wildlife disease surveys and deer management actions are being used to eliminate Bovine TB in wildlife. These techniques are being used since there are no effective vaccines for disease prevention and no effective medication for treatment in wild deer. The wildlife surveys monitor the spread and occurrence of the disease in deer, elk, and carnivores. Cooperators (hunters and trappers) from the Bovine TB Management Area (area bounded by I-75, M-55 and Lake Huron) are asked to voluntarily submit deer heads, and whole carcasses of trapped or shot carnivores for examination. There is now a mandatory submission of elk heads for TB testing.

Deer Management Actions

 Effective in May 1998, the Michigan Agriculture Commission approved, and the Director signed, a mandatory feeding ban. The Natural Resources Commission then, under the authority of this ban, further placed restrictions on baiting within the Bovine TB Management Area. All hunters, wildlife enthusiasts, farmers and landowners must comply with the baiting restrictions and mandatory ban on feeding deer and elk. These measures are necessary to help eliminate Bovine TB in the deer population in the northeastern Lower Peninsula by reducing large concentrations of deer at feeding and baiting sites within this area.

• Effective May 1, 1998, individuals may not place any feed or bait materials that will attract free-ranging deer or elk. The public may feed wild birds and other wildlife if done in such a manner as to exclude deer and elk from accessing the feed or bait. Any feed or bait placed prior to May 1, 1998, which may be accessible to deer or elk, must have been removed, disposed of, buried or otherwise made inaccessible to deer or elk by July 1, 1998.

Beginning September 1, 1998, individuals may place limited amounts of bait for the purpose of hunting deer. No more than five (5) gallons of bait may be placed at any one hunting location. Bait **must** be placed on the ground and salt or minerals are illegal. Hunters are encouraged to scatter the bait rather than placing it in piles. This is done to reduce nose-to-nose contact by any animals consuming this bait. In the Bovine TB Management Area, baits adhering to these restrictions may be placed until the last day of deer hunting (January 3, 1999).

- The special deer management unit (DMU 452) was expanded in 1998 to include all of Alpena, Montmorency, Oscoda, Alcona and Presque Isle counties. A "buffer" area was established, consisting of an approximate 15-mile wide strip of land lying around the new DMU 452, east of highway I-75 and north of highway M-55. The Bovine TB Management Area consists of the new DMU 452 and the buffer area. Special deer hunting regulations have been established in the Bovine TB Management Area to reduce deer numbers.
- The traditional firearm, bow, and muzzleloader seasons will take place in the Bovine TB Management Area. In addition, there will be an early deer-hunting season (antlerless deer only) on private land only in DMU 452. This early season begins October 17, 1998, and runs through October 26, 1998. During this season, only antlerless deer may be taken and only on private land. Deer may be taken with a bow and arrow or firearm.
- There will also be a late deer-hunting season, (antlerless deer only, on private and public land) in DMU 452 in northeastern Michigan. This late season begins December 11, 1998, and runs through January 3, 1999. During this season, only antlerless deer may be taken on private and public land. Deer may be taken with a bow and arrow or firearm.
- An antierless deer-hunting license for DMU 452 will be issued as an over-the-counter license.
 This is a general land license that can be used on public land or on private land with
 permission from the landowner. Hunters may purchase one license per day, regardless of
 whether that hunter has already been issued an antierless hunting license. General
 antierless licenses go on sale September 25, 1998, at 10 a.m.
- This harvest strategy is intended to reduce deer numbers in DMU 452 to a level that can be supported by the natural environment without supplemental feeding. A second goal is to reduce the average age of deer in the population. Older deer are more likely to be infected with advanced cases of Bovine TB, therefore being at risk of transmitting the disease to other deer.

By stopping supplemental feeding, deer will spread out, and not crowd together at feeding sites. Reducing the overall population in DMU 452 will decrease deer densities. The combination of these management strategies should reduce the risk of transmitting Bovine TB between deer. When transmission is decreased to a point, whereby more deer infected with Bovine TB die each year than new ones that become infected, the prevalence rate (percent of infected deer) will

begin to decline. Over a period of years, the disease will be eliminated from Michigan's wild deer herd and other species of wildlife.

The goal of the TB Eradication Strategy is to decrease the prevalence rate of Bovine TB in deer in the TB Core Area (old DMU 452) to less than 1 percent by the fall of 2003, and to have the disease eliminated in the wild deer herd by the fall of 2010. The prevalence rate in the TB Core Area is 4.4 percent.

Wildlife Surveillance

Surveillance activities are undertaken to determine the prevalence of the disease and to monitor its spread and occurrence.

To assess the extent of Bovine TB infection in the wildlife population, deer and elk hunters, and carnivore hunters and trappers in northeastern Michigan have been asked to submit deer, elk, and carnivores for TB testing. In the fall of 1998, there will be a mandatory submission of elk heads from the hunter harvest. Farmers have submitted deer in 1998 using Disease Control Permits. In addition, MSU and MDNR personnel have submitted highway-killed and found-dead deer, elk, and carnivores.

Statewide (from counties outside Alcona, Alpena, Montmorency, Oscoda, and Presque Isle counties), hunters have submitted deer with suspicious tissues. MSU and MDNR personnel have submitted highway-killed and found-dead deer. Deer carcasses at statewide MDNR check stations have been examined* for ribcage lesions.

The submission of deer and elk heads is all that is required for Bovine TB testing. The carcass and/or other tissues will also be accepted for testing if there are any suspicious lesions.

*Definitions for terms used in this Wildlife Surveillance Section:

Culture Positive: If genetic and biochemical testing determines that the bacteria grown on culture is *M. bovis*, the animal is called "positive" for Bovine TB. All of the bacterial cultures from deer and elk tissues were completed at the National Veterinary Services Laboratory (NVSL) in Ames, lowa, and at the MDCH Laboratory. Bacterial cultures from carnivore tissues are only completed at NVSL. **Tested:** The heads are grossly examined and lymph nodes looked at microscopically and cultured if they appear suspicious for TB.

Examined: The carcasses were inspected for gross lesions in the chest cavity.

As of September 15, 1998, the results of ongoing wildlife surveillance activities are as follows:

 Initial Occurrences: In 1975, a nine-year old female white-tailed deer from Alcona county, and in 1994, a four-year old male deer from Alpena county were submitted with lesions consistent with Bovine TB. Both were confirmed culture positive* for M. bovis.

White-tailed Deer Surveys from the Five-County TB Area:

(Alcona, Alpena, Montmorency, Oscoda, and Presque Isle counties)

- 1995 Survey 27 deer were culture positive out of 814 deer tested*.
- 1996 Survey 47 deer were culture positive out of 3,718 deer tested.
- 1997 Survey 73 deer were culture positive out of 3,680 deer tested.
- 1998 Survey 1 deer is culture positive, and 2 deer are suspects undergoing further testing, out of 532 deer tested (as of 9/15/98).

The Grand Total for all Deer Surveys and Initial Occurrences in the five-county area: 150 deer culture positive out of 8,746 tested as of September 15, 1998.

<u>Statewide White-tailed Deer Surveys</u>: (The rest of the state outside the five-county area.)

• Over 15,000 deer tested and/or examined and no Bovine TB positive animals have been found. This includes 46 deer that have been tested in 1998.

Surveys of Other Wildlife Species:

<u>Carnivore Survey</u>: Carnivores, submitted by hunters, trappers, and road kills, from the five-county area were examined during 1996, 1997 and 1998.

- 133 were tested (2 badgers, 1 bobcat, 54 coyotes, 33 opossums, 37 raccoons, 5 red fox, and 1 gray fox).
- 5 culture positive coyotes.
- 2 culture positive raccoons.

The most likely source of infection for these coyotes and raccoons was through the consumption of Bovine TB-infected white-tailed deer. Carnivores generally do not develop extensive lesions containing enormous numbers of bacteria in the body. As a result, successful disease transmission to other animals from coyotes and raccoons is doubtful.

Elk Survey: Hunter-harvested elk were examined during 1996, 1997, and 1998.

• 204 were tested and no Bovine TB-positive animals were found.

MDNR will continue its wildlife surveillance efforts, as well as continue to support MDA in its livestock surveillance efforts.

DNA Fingerprinting: All the Bovine TB culture positive animals: the wild deer, the captive deer, the coyotes, the raccoons, and the cow, had the identical isolate or strain of Bovine TB. DNA fingerprinting is described in detail in the research section of this report.

Captive Cervidae Strategy

MDA has developed and implemented surveillance for Bovine TB in the 28 captive cervidae herds present within the five-county area. Surveillance is being accomplished through TB testing of all animals 12 months of age and older within the herd, or slaughter based sampling of animals removed from the herd. All herds are issued quarantines and movement restrictions are initiated pending completion of surveillance plans. To date, 10 captive cervidae herds have completed surveillance plans and have been released from quarantine. The majority of the remaining herds will undergo surveillance testing during the fall and winter of 1998/1999. Three landowners in the area are in the process of completing construction of facilities for captive cervidae herds, and have been contacted to institute surveillance plans.

Following completion of initial surveillance for TB, the surveillance area will be expanded to include an additional 37 captive cervidae herds present in the entire quarantine area (five-county and buffer zone). Current plans are to conduct surveillance activities in the region at a three year interval until Bovine TB has been eliminated from the free-ranging white-tailed deer herd.

In October 1997, an employee of a captive white-tailed deer operation in Presque Isle county slaughtered an adult white-tailed deer, which had lesions suggestive of Bovine TB. The lesioned tissue was submitted to MDNR and forwarded to Animal Health Diagnostic Laboratory (AHDL) at MSU for testing. The entire herd was placed under quarantine, and tissues from 55 adult white-tailed deer culled

from the herd during normal management protocol were submitted to AHDL, MDCH, and NVSL for diagnostic purposes. Confirmation of Bovine TB in 2 deer from this herd was received from the NVSL on December 18, 1997. On February 25, 1998, MDA, in cooperation with United States Department of Agriculture Animal Plant Health Inspection Services (USDA APHIS) Veterinary Services and Wildlife Services, Michigan Department of Environmental Quality (MDEQ), District Health Department No. 4, and the herd owner, began implementation of a plan to eliminate Bovine TB from the premises through total herd depopulation. USDA APHIS Wildlife Services professionals, qualified for this type of depopulation, will utilize specialized equipment and techniques to humanely remove all deer on the premises. Euthanized animals will be disposed of through burial at a landfill approved by MDEQ to handle dead animals. Veterinarians and scientists from USDA Agricultural Research Service and USDA APHIS Veterinary Services are conducting research on site and at research facilities to further develop knowledge and testing technology for Bovine TB in deer.

Livestock Strategy

The threat that Bovine TB poses to Michigan's livestock industry has prompted a significant response from all the agencies involved. MDA is working extensively with MSU Extension, and AHDL. This coordinated effort helps to ensure quality testing and surveillance, as well as accurate reporting of information to the producers and stakeholders involved. Local extension agents in northeast Michigan work directly with farmers and producers seeking inputs and concerns in order to ascertain areas where programs could be improved. A combination of livestock testing, and farm management activities to reduce transmission between wildlife and livestock area being used. To date, only 1 cow has been confirmed as being infected with Bovine TB, and that cow has been destroyed. All livestock that resided with the infected cow were also depopulated and laboratory testing on tissues from these animals is currently underway.

Surveillance

In March of 1995, MDA began testing for Bovine TB of all cattle and goat herds, and captive deer herds, located in the area north of M-55 and east of I-75. MDA established three testing goals. One was finishing all high-risk (defined as within a 5-mile radius of where a positive deer was found) cattle and goats by August 1998. This goal has been met. The second was testing all dairy farms in the five-county area by October 1998. And the third is to finish testing all cattle and goats in the five-county area by April 1999. Additional testing outside the five-county area, but still in the area of enforced restriction (the buffer zone), will also be conducted.

Following are the results of these efforts as of September 15, 1998:

- 380 total farms tested.
- Over 13,750 total head of cattle and goats have been tested.
- 15 farms currently under quarantine for laboratory testing.

Michigan's TB Status

While conducting the above testing of high-risk farms, a cow in Alpena county was tested and was determined to be culture positive for Bovine TB. This positive case caused USDA to then formally suspend our Accredited Free State status statewide as of August 13, 1998. Our Free status may be reinstated when the following criteria are met:

- 1. The infected herd is depopulated and undergoes testing for Bovine TB, and the premises is cleaned and disinfected.
- 2. A full epidemiological traceback is conducted and all animals that were or may have been exposed are tested.
- 3. The testing of all above animals does not result in any additional culture positive cattle or goats.

The first above criteria has been completed, and MDA is aggressively working on completing the traceback of all potentially exposed animals. These traceback efforts can lead to any geographical area that animals were sold to, or purchased from. Often this leads to other states. As of September 15, 1998, all animals tested in these efforts have been negative.

If a second positive case of Bovine TB is found in cattle or goats within 48 months of the first case, Michigan's TB Free State (Suspended) status will be revoked according to USDA's Bovine TB Eradication Uniform Method and Rules. If the state loses its Free status then Michigan will revert to a Modified Accredited State. Once Modified Accredited status is gained; the state must remain TB free for 5 years before regaining Accredited-Free State status. Free State status is vital for the livestock industry because other states determine their import testing requirements based on the state of origin's status. Cattle leaving a Modified Accredited state will likely be required by other states to have tested negative for Bovine TB before transportation.

In 1997, MSU conducted an economic analysis to determine the costs associated with the loss of Michigan's TB Accredited-Free State status. They determine that the potential economic impacts on agriculture are significant. The dairy, beef cow-calf and cattle feeding industries in Michigan are the enterprises most likely to be affected by the loss of Michigan's TB Accredited-Free State status. MSU determined the estimated total loss to Michigan's farmers to be approximately \$67 million in 1992-2003. This reflects a significant cost to agricultural producers.

To best protect Michigan's livestock industry, MDA has developed a request to submit to USDA seeking to define the area east of I-75, and north of M-55 as a region specific to itself. This request will be submitted to USDA for consideration, and, if accepted, would reinstate the Accredited-Free State status for the majority of the state and allow the continued "free" trade of cattle that is currently being enjoyed by people outside of the defined region. The area inside the newly defined "region" would remain at Accredited-Free (Suspended) status until the epidemiological investigation is completed or another TB positive cattle or goat is discovered. The request addresses the following points:

- The authority, organization and infrastructure of the veterinary services in the region.
- The presence and prevalence of the disease in the region.
- The status of adjacent regions with respect to the disease.
- The extent of an active disease control program.
- The vaccination status of the region, if one is employed.
- The degree to which the region is separated from adjacent regions through physical or other barriers.
- The extent to which movement of animals is controlled from the region.
- Livestock demographics and marketing practices.
- The type and extent of disease surveillance in the region.
- Diagnostic laboratory capabilities.
- Policies and infrastructure for animal disease control in the region.

To prepare for the submission of this request, the area bounded by I-75 and M-55 has been placed under quarantine. MDA issued this quarantine under the authority outlined in Public Act 466. The quarantine will become effective on January 1, 1999, and will remain in effect until released by the Director. In effect, the quarantine order allows for the free movement of cattle and goats into the quarantine area, but restricts movement of cattle and goats out of the area. The only restrictions on movement of cattle within the area is that animals going to a fair or exhibition inside the area must be tested negative for Bovine TB within 60 days before the fair or exhibition. Animals that leave the quarantine area must have had a negative test for Bovine TB within 60 days prior to movement, **or**

- Be from an Accredited-Free herd, or
- Be from a herd that underwent a whole herd test performed by MDA or its representatives within the last 60 days, or
- Be going directly to slaughter, or
- Be calves under 2 weeks of age and officially identified.

The quarantine order also places restrictions on free movement of captive cervidae into and out of the quarantined area. Any captive cervidae which move into or out of the area, or are moved to an exhibition within the area, must meet TB testing guidelines, or originate from herds which retain an official TB status. In addition, the quarantine places restrictions on the movement of captive cervidae less than 6 months of age.

As part of this quarantine order, MDA is working with local and visiting private veterinarians and reimbursing them for any whole herd testing, assigned to them by MDA, that they conduct in the quarantine area, until January 1, 1999. MDA is offering substantial assistance toward the cost of Bovine TB testing for animals inside the quarantined area. MDA is also setting up TB testing clinics in the quarantine area that will allow producers to have any individual cattle tested, at MDA's expense, by transporting these animals to the testing clinics. These clinics will be set up at times and locations to facilitate testing of calves destined for the fall feeder calf sales in northeast Michigan.

By placing this quarantine, MDA is taking a proactive step to contain any potential spread of the disease, facilitating a focused effort of surveillance testing, and guarding the integrity of the remaining portion of the state's livestock industry. The disease is present in the area inside of I-75 and M-55, and by focusing MDA's resources inside that area, the disease can be more quickly eradicated.

MDA will continue its surveillance efforts, expand some of its efforts to provide the information needed to assure USDA and other states that the disease is contained, and support MDNR in its wildlife surveillance efforts. MDA also is looking to work with the Legislature on the following issues:

- 1. Improving the indemnification laws to provide for more appropriate recouping of the animal's value.
- 2. Seeking authority to develop and implement scientifically based surveillance programs for reportable animal diseases.
- 3. Establishing statewide TB herd status for all captive cervidae herds.
- 4. Developing and implementing a program to compensate livestock owners for livestock that die or need to be destroyed for humane purposes while the livestock are being tested or under a surveillance program for a reportable animal disease.

Livestock Management Actions

Methods for Farmers to Eliminate Transmission of Bovine TB between Livestock and Wildlife

- 1. Promoting/Enforcing the Feeding Ban
 - The Environmental Stewardship Division (ESD) of MDA is the lead agency for all Bovine TB complaints concerning agricultural operations in the restricted area.
 - The ESD Right to Farm Environmental Complaint Response Program serves as the model for handling TB complaints. Similar in nature to the Generally Accepted Agricultural and Management Practices (GAAMP) ESD defined the Normal Agricultural Practices (NAP) as a component in the strategy to eradicate TB in free-ranging, white-tailed deer.
 - An emphasis was placed on ensuring flexibility and minimizing financial burden on producers and growers.
 - In the strategy to limit access, ESD identified common feed pathways. Farm management
 practices, such as removal of residual feed from feed lot areas, removal of hay bales from
 fields, feed scheduling, rationing, and guard dogs are combined with appropriate structures
 such as fencing, lighting and temporary covers to help limit access to those pathways.
 - The TB complaint process provides ESD with a mechanism to identify, investigate, resolve, monitor, and report on problematic farms or areas. Coordination with other MDA divisions, as well as the MDNR, affords ESD the opportunity to promote and contribute to the eradication of Bovine TB.

2. Disease Control Permits

 MDNR will issue Disease Control Permits to agriculture producers in Alcona, Alpena, Cheboygan, Crawford, Iosco, Montmorency, Ogemaw, Oscoda, Otsego, Presque Isle, and Roscommon counties. The permits are an expansion of the existing permit system which allow agricultural producers to harvest deer that cause crop damage or interfere with livestock operations. To date there have been 97 permitees and 465 deer submitted in 1998 on Disease Control Permits, and no Bovine TB positives have been found.

PUBLIC COMMUNICATIONS

Bob Bender, TB Eradication Coordinator, appointed on February 3rd, 1998 by Governor Engler, continues to work cooperatively with MDA, MDNR, and MDCH, as well as with MSU and USDA, towards the eradication of Bovine TB. He continues to meet with hunt clubs, local Chambers of Commerce, industry groups and livestock producers in the affected area to update them on the TB eradication efforts and to listen to their concerns. MDCH also continues to address the public's concerns regarding the health implications of Bovine TB. Local Community Health offices in northeast Michigan conduct routine diagnostic testing on people who wish to have a TB test free of charge.

The communication efforts have been extensive and are not limited to the following:

- Production of Bovine TB Reports an in-depth description of the Bovine TB Eradication Strategy.
- Production of the "Bovine TB in Michigan" brochure distributed nationwide at TB- related conferences and public events.
- Production of maps showing TB positive animal locations, and livestock and wildlife tested locations, for use at Bovine TB meetings.
- Numerous public information meetings on Bovine TB have been held statewide and in the Bovine TB Management Area.
- Production of Bovine TB Update bulletins distributed to livestock producers, captive cervidae owners, industry stakeholders, local Chambers of Commerce, resorts, hotels, campgrounds, convenience stores, media, and other interested parties as "progress reports" on the TB eradication effort.
- Regular Legislative updates Given by MDA Legislative Liaison Vicki Pontz-Teachout.
- Production of an informational video on TB for livestock and captive cervidae producers, as well as anyone interested in the TB issue. Footage is almost complete, and production is expected to be completed by September 30, 1998.
- Production of new "Deer Barriers" bulletin that describes the various fencing options available for keeping deer in or out of areas.
- Production of Video News Releases on hunting and field dressing deer safely in northeastern Michigan. For release as the hunting season approaches.
- Traveling TB display at county fairs, public meetings statewide, and the State Fair.
- Implementation of Bovine TB Communications Plan, which will include distribution of several brochures, a commercial TV strategy, Public Service Announcements, promotion of the new 1998 deer hunting rules and regulations, and a position paper on the white-tailed deer management.
- Implementation of a marketing strategy to promote the extended hunting season and encourage hunting in the affected area this fall.
- Web page production of press releases, the brochure, the bulletin, meeting announcements, articles, current research, wildlife and livestock surveillance updates, cattle shipping restrictions and other pertinent TB information are available at the following address:
 //wwwdnr.state.mi.us/wildlife/division/roselake/. A link to the site is also available on the MDA website at: //www.mda.state.mi.us/.

CONTINUED SUPPORT OF SCIENTIFIC RESEARCH

The Statewide Bovine TB Committee, consisting of members from MDA, MDNR, MDCH, MSU, and USDA, has recommended research needs in the areas of Bovine TB transmission, deer movement and behavior, and epidemiological studies. To address these needs, in addition to the disease monitoring studies discussed earlier in this report, the following research has been done or is underway:

SUMMARY OF RESEARCH TO BE CONDUCTED ON MYCOBACTERIUM BOVIS INFECTION IN WHITE-TAILED DEER AND RACCOONS AT THE USDA, ARS, NATIONAL ANIMAL DISEASE CENTER

Since 1995, *Mycobacterium bovis* has been isolated from 150 wild white-tailed deer, 5 coyotes, and 2 raccoons originating from a five-county region of northeast Michigan. The presence of *M. bovis* infection in this population of deer is the first wildlife reservoir of TB to be recognized in the United States. Other countries, such as New Zealand and Great Britain, with wildlife reservoirs of TB have not been able to eradicate the disease from domestic livestock. In June 1998, *M. bovis* was isolated from a cow that was from a herd located within the five-county region. Results of DNA fingerprinting indicate that the cow was infected with the same strain of *M. bovis* that is present in the wildlife.

Very little is known about the pathogenesis and transmission of TB in white-tailed deer. In research conducted at NADC, we determined that white-tailed deer can be experimentally infected with *M. bovis* by instillation of the organisms into the crypts of the palatine tonsils. The lesions produced in experimentally infected deer were similar in character and distribution to those observed in naturally infected deer. We also determined that *M. bovis* can be shed in nasal and oral secretions of infected deer, which suggests that these secretions may be involved in the transmission of disease. In addition, we plan to determine the distribution and character of lesions in raccoons experimentally infected with *M. bovis*.

Objectives and approaches:

1. Pathogenesis of M. bovis infection in white-tailed deer.

White-tailed deer will be experimentally challenged by instillation of *M.bovis* into the crypt of the palatine tonsil. Immune responses of the deer will be monitored by skin tests, lymphocyte blastogenesis assay, interferon gamma assay, and an enzyme linked immunosorbent assay. Shedding of *M. bovis* by infected deer will be monitored by bacteriologic culturing of swab samples collected from the tonsilar crypt, nose, and mouth. Deer will be euthanized at various time points up to one year after inoculation. The distribution and characteristics of lesions at each time point will be determined by macroscopic and histopathologic examination.

2. Transmission of M. bovis from experimentally infected white-tailed deer to sentinel white-tailed deer.

White-tailed deer will be divided into two groups. One group will be experimentally challenged with *M. bovis*. Experimentally infected deer will be housed with deer that have not been challenged. Immune responses of experimentally infected deer and sentinel deer will be monitored using various assays. Shedding of M. bovis will be monitored by bacteriologic culturing of various swab samples. Sentinel deer that develop immune responses against *M. bovis* will be euthanized and examined for evidence of TB. The distribution and character of lesions will be determined.

3. Transmission of *M. bovis* in naturally infected white-tailed deer.

We plan to continue our research on transmission of *M. bovis* in naturally infected white-tailed deer when depopulation of the captive white-tailed deer herd in Presque Isle county is resumed. We will collect swab samples from the tonsilar crypts, nose, and mouth of deer that are removed. We will examine lymph nodes of the head and thoracic cavity for evidence of TB. If lesions are present, approximately 20 lymph nodes and other tissue samples will be collected and examined for TB. We also plan to examine the possible transmission of *M. bovis* from does to fawns by collecting samples from the uterus, mammary gland and milk. Fawns that are removed as part of the depopulation will also be examined.

4. Transmission of *M. bovis* from white-tailed deer to cattle.

We will determine the amount of contact needed between white-tailed deer and cattle in order for *M. bovis* to be transmitted between the two species. One group of cattle will be given feed that contains a known quantity of *M. bovis*. A second group of cattle will be given feed that is shared with a group of experimentally infected white-tailed deer. A third group of cattle will be housed with experimentally infected white-tailed deer and will share feed, water, and bedding. Immune responses of the cattle and deer will be monitored by the assays mentioned in objective 1. Shedding of *M. bovis* from various secretions will also be monitored.

5. Mycobacterium bovis infection in raccoons.

Raccoons will be experimentally challenged with *M. bovis* by mixing a suspension of organisms into food. Three different doses of *M. bovis* will be used to determine the number of organisms needed to infect raccoons by the oral route. At the end of the study period, raccoons will be euthanized and the distribution and character of lesions will be determined.

This research is underway.

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DEVELOPMENT OF A MODEL OF NATURAL INFECTION WITH MYCOBACTERIUM BOVIS IN WHITE-TAILED DEER (ODOCOILEUS VIRGINIANUS)

Mitchell V. Palmer, Diana L. Whipple, Steven C. Olsen, United States Department of Agriculture, Agriculture Research Services, National Animal Disease Center, Ames, Iowa

Mycobacterium bovis is the causative agent of TB in many species of animals including cattle, deer, and elk. Recently, TB has been diagnosed in wild, white-tailed deer in Michigan. This is the first known wild animal reservoir of TB in North America and represents a serious threat to the eradication of TB from

domestic livestock. Serious potential exists for infected deer to transmit TB to cattle and other livestock. To better understand TB in white-tailed deer, an experimental model of infection that closely resembles natural disease will be extremely useful. In addition, improved understanding of transmission and disease progression of TB in deer will be invaluable in controlling the disease and preventing spread to livestock. To answer these questions, we inoculated white-tailed deer by instillation of *M. bovis* into the tonsilar crypts. Inoculated deer developed TB which looked very similar in character and distribution to that reported in wild deer. Potential sources of shedding were evaluated by collecting nasal, oral, tonsilar, and rectal swabs. *Mycobacterium bovis* was recovered from tonsilar, oral, and nasal swabs but not rectal swabs. We conclude that intratonsilar inoculation of white-tailed deer will provide a useful model of natural disease for further study. In addition, we conclude that deer may shed *M. bovis* in saliva and nasal secretions. These infected fluids provide a means of transmission of disease to other deer or cattle. This information will be useful to wildlife agencies, state and federal regulatory officials, deer and cattle producers, veterinarians, and the general public residing in areas in which there are significant populations of white-tailed deer.

This study is being continued (see the abstract of the research listed above).

EMPIRICAL TEST OF A PREDICTIVE GENEALOGICAL MODEL FOR TRANSMISSION OF BOVINE TUBERCULOSIS IN FREE-RANGING WHITE-TAILED DEER IN MICHIGAN

Kim Scribner, Scott Winterstein, Michigan State University, Department of Fisheries and Wildlife

This research is designed to test the hypothesis that the primary means of transmission is from mother to offspring.

The primary factor underlying spatial structure in white-tailed deer involves the species' matriarchal social structure and strong philopatry and site fidelity of females. If disease incidence is related to social contact, then individuals at greatest risk to TB infection are likely to be genetically related to infected individuals. The researchers would propose that individuals at greatest risk may be members of extended family groups (i.e., females and attendant young and related females of the same matrilineal group). Under a "genealogical" model of transmission it is assumed that the primary mode of infection is between close relatives, irrespective of whether they are supplementally fed or not. Supplemental feeding could exaggerate infection levels by maintaining the population at artificially high densities (i.e., high numbers of females and correspondingly higher numbers of susceptible fawns).

In the absence of direct assessment of kin associations (e.g., direct observations of mother-offspring pairs or of social groups), molecular genetic markers can be used to assess degree of relationship. This "genealogical" model could easily be tested under the existing framework of monitoring efforts.

The general objectives of this study are to characterize the extent of spatial genetic structuring and degree of genetic relatedness among deer from areas of high and low TB prevalence. Estimates of inter-individual relatedness will be correlated to incidence of TB infection and to geographic proximity. Specifically, our objectives are:

- 1. To determine if deer which are co-infected with TB are more closely related genetically than are deer not infected with the disease.
- 2. To determine the degree of spatial autocorrelation (non-independence or clumping) of TB-infected deer and of deer spatial genotypic structure.
- 3. To determine if the spatial genetic structure of deer in high density areas characterized by supplemental feeding differs significantly from areas of lower deer density north of the TB Core Area.

This research is in the planning stages.

ERADICATING BOVINE TB IN WHITE-TAILED DEER IN MICHIGAN: IDENTIFYING AVENUES OF WITHIN-HERD TRANSMISSION.

Scott Winterstein, Mark Garner, Michigan State University, Department of Fisheries and Wildlife

This research project was designed to examine movements and migratory behavior of white-tailed deer and their behavior at fall baiting and winter feeding sites in DMU 452. This research project was initiated in December 1996 when over 60 deer where trapped and fitted with radio collars. By the end of the 1997/1998 winter trapping period there were 68 radio-collared deer in the study. As of August 15 1998, there were 62 deer with active radio collars being located 2 - 3 times each week. The majority of these deer are either adult does or last year's fawns. The primary source of mortality for collared deer was hunter harvest, followed by starvation and natural predation. In general, the majority of the radio collared deer are staying in close proximity (within 1 mile) to the area where they were trapped; however, 1 deer has moved over 14 miles from its trap site.

Upon completion of the project, the following will have been determined:

 Average number of deer in contact with (feeding simultaneously with) a potentially infected deer each winter (for the purposes of this research all ear-tagged and radio-collared deer are considered to be infected),

Percentage of deer exhibiting high winter feeding site fidelity,

- Average distance between feeding sites visited by a single individual within and between years,
- Potential infection area using winter feeding site movements and fidelity information,

Percentage of deer exhibiting high fidelity for fall bait piles,

- Average number of deer in contact with (feeding simultaneously with) a potentially infected deer each fall,
- Impact of decreasing or halting winter feeding on deer movement and habitat use patterns,
- Effectiveness of halting winter feeding as a management tool for controlling Bovine TB,
- Percentage of harvested or collected radio-tagged deer infected with Bovine TB, and
- Potential for transmission of Bovine TB between white-tailed deer and domestic livestock.

As the study enters its second fall season, over 350 hours of observations at winter feeding sites and over 215 hours of observations at fall baiting sites have been collected. Efforts this fall will again be devoted to observing deer behavior at fall baiting sites and monitoring movement and migration patterns. The researchers will also attempt to increase the number of radio collared bucks by selectively darting and drop netting individual deer. With the new feeding ban in effect, the primary focus of the 1998/1999 winter season will be to monitor deer movement and habitat use patterns. The researchers are particularly interested in determining if, in the absence of winter feed, a change in movement patterns can be detected. They will also be trapping deer to replace the radio-collared individuals harvested during the fall 1998 hunting seasons.

EPIDEMIOLOGICAL STUDY OF MYCOBACTERIUM BOVIS INFECTION IN MICHIGAN WHITE-TAILED DEER (ODOCOILEUS VIRGINIANUS) AND ASSOCIATED POTENTIAL RISK TO LIVESTOCK AND HUMANS

John Kaneene, RoseAnn Miller, Scott Fitzgerald, James Sikarskie, Michigan State University Stephen M. Schmitt, Michigan Department of Natural Resources, Wildlife Division Colleen Bruning-Fann, United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services

Hypothesis 1 - Specific risk factors in the transmission and maintenance of *Mycobacterium bovis* infection in free-ranging white-tailed deer in the State of Michigan can be identified.

We propose to test the hypothesis that risk factors in the maintenance and transmission of M. bovis infection can be identified. The risk factors to be examined include, but are not limited to, the following factors:

Deer-specific risk factors: animal age and gender

Deer yarding site factors: actual size of yarding areas, density of deer in the yard, number of deer per yarding site, average distance between individual deer bedding sites

Historic deer feeding site factors: proximity of feeding sites to yarding areas, types of feed fed in the past at the site, number of years the feeding site was used, the length of the feeding period during the year, average number of deer fed

Environmental factors: topographic features, natural food sources, type and proximity of crops planted near deer yarding areas, soil type (iron, pH, etc.)

Through the examination of deer harvested from northeastern Michigan, an area of low *M. bovis* prevalence has been identified within the *M. bovis* affected region. This area of low *M. bovis* prevalence adjoins an area of high prevalence. Comparisons of risk factors between these two areas will be made to determine which factors contribute to the maintenance and transmission of *M. bovis*.

- Hypothesis 2 The routes of TB transmission of *M. bovis* in free-ranging white-tailed deer are through the oral and nasal routes. We propose to evaluate the routes of TB transmission between wild deer by evaluating the oral, nasal, and tracheal linings of deer found to be infected with *M. bovis*.
- Hypothesis 3 Other wildlife species, in addition to white-tailed deer, function as reservoirs of *M. bovis*. To test the hypothesis that free-ranging white-tailed deer are not the only reservoir for the bacterium *M. bovis* in the wildlife population of northeastern Michigan, wildlife species of interest will be tested for *M. bovis* infection. These species include animals that share range with deer and either consume deer carcasses or food taken from supplemental food piles left for deer.

ASSESSMENT OF THE EXPOSURE OF FEEDS TO MYCOBACTERIUM BOVIS FROM WHITE-TAILED DEER

John Kaneene, RoseAnn Miller, Scott Fitzgerald, James Sikarskie, Michigan State University Stephen M. Schmitt, Michigan Department of Natural Resources, Wildlife Division Colleen Bruning-Fann, United States Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services

Preliminary research has implicated supplemental feeding of deer in winter as a contributing cause for the TB outbreak, resulting in a ban on winter feeding in DMU 452, effective as of May 1, 1998. All existing feeding sites were required to be eliminated by July 1998. There is evidence in the scientific literature that supports both the survivability of *Mycobacterium bovis* in the environment, and infection with *M. bovis* through ingestion of the organism. Since the infective dose through ingestion is much higher than the infective dose through inhalation, it is unlikely that the oral route is the predominant method of spread of *M. bovis*. However, since the possibility does exist for the bacteria to survive in the environment for long periods of time (months under ideal conditions), this could be a factor contributing to the support of infection in the deer population.

Hypothesis:

Intentional and incidental deer feeding can contribute to the spread and maintenance of *M. bovis* infection by providing conditions in which *M. bovis* can survive in the feedstuffs.

The objective of this study is to determine whether *M. bovis* can be found in feedstuffs utilized by a population of white-tailed deer with known *M. bovis* infections. Locations and descriptions of feeding sites will be recorded, and samples of feed, soil and feces will be collected for mycobacterial culturing at the NVSL. If any samples are culture-positive, DNA testing will be performed to determine whether the strain present in the feed is the same one infecting deer in the area. Additionally, chemical analyses of soils will be done at MSU's Soil Testing Lab to determine whether soil samples provide conditions capable of supporting *M. bovis* in the environment.

This project has finished the design phase, and preparations are under way to begin data collection.

DNA FINGERPRINTING OF MYCOBACTERIUM BOVIS ISOLATES FROM A COW, FIVE COYOTES, AND TWO RACCOONS ORIGINATING FROM NORTHEASTERN MICHIGAN

Diana L. Whipple, United States Department of Agriculture, Agriculture Research Services/National Animal Disease Center, Ames, Iowa

Restriction fragment length polymorphism (RFLP) analysis was used for DNA fingerprinting *M. bovis* isolates from 1 cow, 5 coyotes, and 2 raccoons originating from the TB-affected area of northeast Michigan. RFLP analysis was conducted using previously described procedures. DNA was extracted from each isolate and digested with restriction endonucleases Pvull and Alul. DNA fragments were separated by agarose gel electrophoresis. DNA digested with Pvull was hybridized with a polymorphic GC-rich repetitive sequence (PGRS), which is also referred to as pTBN12. The *M. bovis* isolates from the cow, coyotes, and raccoons each had a single copy of IS6110 that was in the same size fragment as the majority of white-tailed deer isolates. In addition, the RFLP patterns for DNA digested with Alul and probed with PGRS were identical for all *M. bovis* isolates from the cow, coyotes, raccoons, captive white-tailed deer, and free-ranging white-tailed deer. These results indicate that these animals were infected with a common strain of *M. bovis*.

DNA fingerprinting analysis will continue with the discovery of additional positive animals.

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Dr. Debbi Donch, (MDA), Dr. Nancy Frank (MDA), Geralyn Lasher (MDCH), and Peggy Snyder (MDA)

Monday, November 23, 1998

Jim and Lohd from Gd Klosig

RE: Last session's Bill - Assembly Bill 870, relating to using bait to hunt dear.

Your note for having drafted this year says:

"Baiting on hunting only" "No Bow Hunting"

Does the no bow hunting mean it would read like last session's bill:

AB 870 year's was introduced: "No person may place bait for the purpose of hunting deer during any season open to hunting of deer with firearms"?

In last year's file you had a copy of the bill with some handwriting on it. It read:

"No person may place or hunt deer using bait for the purpose of hunting deer during any season open to hunting of deer. (Then you had with firearms crossed out.

I'm not sure what you mean?

Please look at file so we can get some proper wording to send over to drafter.

Also, will this be introduced like the last one "by request of Donald Lohr of Sheboygan"?

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History of Assembly Bill 870

ASSEMBLY BILL 870

Text of Assembly Bill 870

Search for another history



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Baiting for White Tailed Deer - Surrounding States

Pennsylvania

Game Commission, Bureau of Law Enforcement, director: James Richard Fagan (717) 787-5743

Baiting for White Tailed deer is illegal

New York

Dept. of Environmental Conservation, Division of Fish and Wildlife, chief: Gary Parsons (518) 457-3730

Baiting for White Tailed deer is illegal

Indiana

Dept. of Natural Resources, Division of Fish and Wildlife, director: Gary Doxtater (317) 232-4080

Baiting for White Tailed deer is illegal

Illinois

Dept. of Natural Resources, Office of Law Enforcement, chief: Larry Closson (217) 782-6431

Baiting for White Tailed deer is illegal

Michigan

Dept. of Natural Resources, Division of Wildlife Management, chief: George Burgoyne (517) 373-1263

Baiting for White Tailed deer is legal

Minnesota

Dept. of Natural Resources, Division of Fish and Wildlife, chief: Roger Holmes (612) 297-1308

Baiting for White Tailed deer is illegal

Ohio

Dept. of Natural Resources, Division of Wildlife, chief: Richard Pierce (614) 265-6300

No law addressing baiting, could bait

Wyoming

Game and fish Dept., Division of Wildlife, chief: Jay Lawson (307) 777-4600

No law addressing baiting, could bait

Montana

Dept. of Fish, Wildlife, and Parks; Bureau of Wildlife; chief: Don Childress (406) 444-2612

Baiting for White Tailed deer is illegal

<u>Idaho</u>

Fish and Game Dept., Bureau of Wildlife, chief: Tom Reinecker (208) 334-2920

Baiting for White Tailed deer is illegal